

REMARKS:

Claims 1 through 18 have been cancelled. Claims 19 through 43 have been added. Applicant has enclosed substitute drawings of figures 2A, 3A, 4, 11B, 11C, 19, 23, 25, 27, 29, 29A, 34A, and 38 with corrections to the examiner's objection to the drawings. In particular, the drawings were objected to as failing to include reference signs 145, 151, 187, 233, 239, 294, 602, 573, 583, 646, 465, 868, 906, and 912. These reference numbers have been added to the figures. A copy of the figures with these changes is circled in red. Reference signs 202, 264, 744, and 822 have been changed to 194, 161, 742, and 920 in the specification to be consistent with the drawings and other language of the specification.

The specification has been amended so that the reference characters 42, 148, 158, 179, 224A, 224B, and 742 are consistent in designating their elements, thereby overcoming the objection to the drawings. Reference sign 919 has been changed to 917 in the drawings to be consistent with the specification. Reference characters 139, 330, and one of the two 830s has been deleted from the drawings. Reference characters 636, 668, and 602 have lead lines indicating the appropriate element. A copy of the figures with these changes is circled in red. The changes in figures do not add new matter to the application.

Regarding the objection to the inclusion of reference number 52 not in FIG. 2C, the reference number is located on the right side below the pedal 206. Regarding the objection to the inclusion of reference number 658, the reference number is located at the top of FIG. 4. Regarding the objection to the inclusion of reference number 474, the reference numeral is located near the top of FIG. 29. The explanations and changes to the drawings and specification should now overcome the objections to the drawings.

The disclosure was objected to because of some informalities. In response, the disclosure has been amended on pages 11, 12, 17, 18, 20, 26, 28, 33, 34, 37, 39, 46-50, and 52 to correct the informalities. The abstract of the disclosure has also been amended to delete the legal phraseology. Also, language was added in the summary of the invention to correspond with the independent claims. No new matter has been added in these changes.

Examiner would allow claims 8 and 14 if rewritten to overcome the rejection under 35 U.S.C. 112. Applicants have therefore added independent claims 26 and 33, which are substantially similar to claims 8 and 14, respectively, except for the changes to overcome the rejection. In particular, the word 'improved' has been deleted and language that recites a vacuum source associated with the nozzle assembly has been added to provide the means for cleaning in these claims. Also, the word 'translationally' has been deleted in claim 22. Thus, these claims and their dependent claims 27-32 and claims 34-37 should be allowed.

Examiner would also allow claims 3-6 if rewritten to overcome the rejection under 35 U.S.C. 112 and to include all of the limitations of the base claim and any intervening claims. Applicants have therefore added claims 22-

25, which are substantially similar to claims 3-6, respectively, except for changes to overcome the rejection and to include all of the limitations of the base claim and intervening claims. In particular, the word 'improved' has been deleted and language that recites a vacuum source associated with the nozzle assembly has been added to provide the means for cleaning in these claims. Language has also been added to state that the slide latch also detaches the nozzle assembly. Thus, claims 22-25 should be allowed.

Claim 19 has been added which is substantially similar to claim 2, except for changes to overcome the rejection under 35 U.S.C. 112 and to include all of the limitations of the base claim, claim 1. In particular, the word 'improved' has been deleted and language that recites a vacuum source associated with the nozzle assembly has been added to provide the means for cleaning in these claims. Language has also been added to state that the slide latch also detaches the nozzle assembly. Examiner has rejected claim 2 under 35 U.S.C. 103 as being unpatentable over Dick et al. in view of Mache. This rejection is respectfully traversed.

The combination of Mache with Dick et al. is traversed. There is no basis for making the proposed combination. There is no suggestion as to how the squeegee in the Mache reference could be incorporated into the Dick et al. reference. In fact, such a combination would teach away from the references. The Dick reference discloses vacuum cleaner 10 having a powered brush 16 within a vacuum nozzle 14. The powered brush nozzle 14 is attached to but removable from the wheeled fan motor carriage 12 of the vacuum cleaner 10. Such a combination of the brush and vacuum nozzle makes the powered brush nozzle relatively large and bulky. Also, the nozzle

inlet opening is positioned a distance away from the front edge of the nozzle as shown in FIGS. 4, 5, 10, and 12. Specifically, it appears that a front L-shaped member or guard extends rearwardly from the front portion of the nozzle casing to the front edge of the nozzle inlet. This construction makes it impossible or very difficult for the vacuum nozzle to clean edges.

By contrast, the squeegee attachment tool of Mache is designed for use in edge cleaning. The squeegee blade 5, the suction head, and the combination of these two elements are designed and constructed for use in cleaning the terminal edge of the cleaned surface as shown, for example, in FIGS. 6A, 6B, and 7. In particular, the specification discloses this feature beginning at column 10, line 8, which states:

"Referring to FIG. 3, the suction head 15 is specifically dimensioned in relation to the squeegee blade 5 so that when blade 5 is at its preferred angle of attack to reference cleaning surface line "S" the tip of the blade 5, at point "E", extends outside a perpendicular line from cleaning surface "S" indicated by dashed line "I" which touches the outermost protrusion of the cover 4. At the same time point "E" also extends below a parallel line to cleaning surface "S", dashed line "J", touching the lowest most point of the bottom wall 16. Point "E" extends past these two lines, "I" and "J", because the leading edges of both the cover 4 and the bottom wall 16 are beveled which compensates for their dimensional thickness. As indicated by angle "D", the bottom surface 17 of the bottom wall 16 is maintained at an oblique angle of 15 degrees or less in relation to the plane of the blade 5, 0 degrees being preferred. The shallow nature of angle "D" thus enables the intake port 14 and the blade 5 to travel very close to a typical framed terminal edge of a cleaned surface while the blade 5 is at the preferred angle of attack as seen in FIG. 6B.

Thus, in combination then and with the squeegee blade 5 at the preferred attack angle to the cleaning surface, the foregoing specific configuration allows the suction head 15 to fit into the framed edge at the beginning of a cleaning stroke, as seen in FIG. 6A. The squeegee blade tip, point "E", now extends to the extreme starting edge of the cleaning surface while an aspiration gap between the bottom wall 16 and the cleaning surface is preserved. Towards the end of a typical cleaning stroke, as seen in FIG. 6B, the handle 6, the operator's hand and bulk of the tool 1 clear the typical framed edge. Because of the narrow angle of bottom surface 17 in relation to the squeegee blade 5 the intake port 14 and the blade 5 are allowed to travel very close to the terminal edge of the cleaned surface while the blade 5 continues to remain at the preferred angle."

Thus, the combination of Mache with Dick would teach away from them. Hence, this combination is not proper and should be withdrawn. Therefore, claim 19 and its dependent claims 20 and 21 should be allowed.

Dependent claim 20 should be allowed for at least the same reason as claim 19 and it further includes the limitation with respect to the squeegee including a front blade and a rear blade.

Dependent claim 21 should be allowed for at least the same reason as claim 20 and it further includes the limitation with respect to the floor cleaning device including a brush assembly secured to the base adjacent the nozzle assembly.

Applicant has further added claims 38-43, which distinguish over the prior art of record and therefore should be allowed.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

It is believed that the original and newly entered claims distinguish over the prior art of record. Examination and early allowance of this application is respectfully requested.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

On page 2, after line 14, the following language was added:

In another aspect of the invention, a floor cleaning device is provided. The floor cleaning device comprises a base for movement along a surface and a channel formed in the base. A nozzle assembly is removably attached to the base and a vacuum source is associated with the nozzle assembly for generating suction to draw dirt from the surface into the nozzle assembly. The nozzle assembly includes a slide latch slidably engaging the channel of the base to attach the nozzle assembly to the base and slidably disengaging the channel to detach the nozzle assembly from the base. The base includes a cam member wherein the slide latch cams against the cam member to guide the nozzle assembly against the base thereby forming a close fit to the base upon the slide latch engaging the channel of the base to attach the nozzle assembly to the base.

In another aspect of the invention, a floor cleaning device is provided. The floor cleaning device includes a base for movement along a surface and a rib formed on the base. A nozzle assembly is removably attached to the base and a vacuum source is associated with the nozzle assembly for generating suction to draw dirt from the surface into the nozzle assembly. The nozzle assembly includes a slide latch which has a hook portion that engages the rib to secure the nozzle assembly to the base upon the slide latch sliding a predetermined distance.

In still another aspect of the invention, a floor cleaning device is provided. The floor cleaning device includes a base for movement along a

surface. A nozzle assembly is removably attached to the base and a vacuum source is associated with the nozzle assembly for generating suction to draw dirt from the surface into the nozzle assembly. The nozzle assembly includes a slide latch that cams against a cam member of the base to guide the nozzle assembly against the base thereby forming a close fit to the base upon the slide latch slidably engaging the base to attach the nozzle assembly to the base.

In still another aspect of the invention, a floor cleaning device is provided and includes a base for movement along a surface. A fluid distribution system is associated with the base for distributing cleaning fluid to the surface. A nozzle assembly is removably attached to the base and a vacuum source is associated with the nozzle assembly for generating suction to draw dirt from the surface through the nozzle assembly and into the recovery tank. The nozzle assembly includes a slide latch which slidably engages a channel formed in the base to attach the nozzle assembly to the base. The slide latch slidably disengages from the channel to detach the nozzle assembly from the base.

The sentences beginning at line 14 of page 9 has been amended as follows:

Both the nozzle assembly 62 and brush block assembly 216 are removable from the base assembly [42] 44. Further details of the cleaning unit 40 are discussed below.

Turning to the lower portion of the base assembly [42] 44 as shown in FIG. 2A, the frame 52 is generally unitary molded and includes two

laterally displaced rear wheels 54.

The sentence beginning at line 14 of page 11 has been amended as follows:

[A] The spacer 86 is attached to the outlet 102 as seen in FIG. 6, and is fluidly connected to a rectangularly shaped translucent base duct or channel 106 as depicted in FIG. 4.

The sentences beginning at line 19 of page 11 has been amended as follows:

As best illustrated in FIGS. 2B and 4, the floor suction nozzle assembly 62 is removably attached to the frame 52 and fluidly connected to [a] base duct 106. The base duct 106 comprises upper and lower portions that are welded together. An elastic flexible grommet 108 for sealing is fitted around the front inlet of the base duct 106 to seal the passageway between [the] a spacer 104 and base duct 106 when they are fluidly connected together.

The sentence beginning at line 20 of page 12 has been amended as follows:

As the slide latch 110 is slid further, the hook 116 cams against a beveled channel rib 132 on [the] top wall 133 of the channel 130, deflecting upwardly over the channel rib 132 and catching it as shown in FIG. 8C.

The sentence beginning at line 18 of page 13 has been amended as

follows:

An arm 141 is integrally formed with the top side 142 of the base 140 and extends upwardly.

The sentence beginning at line 9 of page 15 has been amended as follows:

Specifically, as depicted in FIG.13A, when the leg 160 of the pedal 158, upon being depressed, pushes the sliding block 152 laterally inward to raise the nozzle assembly 62 (FIG. 18), the front rib cage 164 will engage a first notch 168 on the rotor [158] 148 to rotate the rotor 148.

The sentences beginning at line 24 of page 16 has been amended as follows:

In operation, when the slide block 152 moves laterally inward to raise the nozzle assembly 62 (FIG. 18), the leg 179, urged by the spring [179] 182, slides inwardly along the curved guide slot 184 to the position shown in FIG. 11C. Hence, the indicator plate 178 rotates to the position shown in FIG. 30A such that the colored area of the indicator plate 178 is positioned under the dry mode opening 174 (FIG. 1). When the slide block 152 is moved laterally outward to lower the nozzle assembly 62 (FIG. 18), the leg 179, urged by the spring [179] 182, slides outwardly along the curved guide slot 184 to the position shown in FIG. 11A thereby rotating the indicator plate 178 to the position shown in FIG. 30B such that the colored area of the indicator plate 178 is positioned under the wet mode opening 176.

The sentence beginning at line 8 of page 17 has been amended as follows:

Alternatively, as depicted in FIG. 30D, a compression spring 182' with one end inserted round the hub portion 181 of indicator plate 178 and the other end inserted around the protrusion 187 could be used instead of the torsion spring 182.

The sentence beginning at line 22 of page 17 has been amended as follows:

In particular, with reference to FIGS. 15A and 15B, a torsion spring 196, inserted around the lever [198] 192, is secured between the frame 52 and lock plate 190 and biases the stop member 194 to extend inwardly and abut the right ear 48.

The sentence beginning at line 11 of page 18 has been amended as follows:

In particular, as best illustrated in FIGS. 14A and 14B, upon depressing the pedal 206, a downwardly depending leg 210 of the pedal 206 cams upwardly against an outwardly extending tongue member 212 of the lock plate 190, thereby pivoting the stop member [202] 194 downwardly and outwardly away from the right ear 48.

The sentence beginning at line 22 of page 18 has been amended as follows:

As depicted in FIG. 2A, [a] brush block assembly 216 is removably secured

to the base assembly 44 for agitating the surface to be clean.

The sentence beginning at line 4 of page 19 has been amended as follows:

A drive shaft 225 having a square cross section is welded to the axial shaft 224B of the gear brush [224B] 226B adjacent the right outer brush [224A] 226A.

The sentence beginning at line 10 of page 20 has been amended as follows:

Referring back to FIG. 19, a gear guard 236 snap fits into [a] brush support plate 218.

The sentence beginning at line 23 of page 20 has been amended as follows:

Once deposited within the [brush] center cups 230, the cleaning solution flows outward toward the surface being cleaned through openings 232 in the bottom of the brush cups.

The sentence beginning at line 25 of page 21 has been amended as follows:

The outlet of the elbow connector 245 is aligned over a [rear] front branch 261 of the channel of the lower plate 252. Cleaning solution flows from the supply hose 328 through the elbow connector 245 to the [rear] front branch [264] 261 of the channel 260 and then through the orifices 262 to the

troughs 244 (FIG 19).

The sentence beginning at line 2 of page 26 has been amended as follows:

Turning back to FIG. 24, the axial shaft 520 is [press] pressed into pockets 530 formed in the lower cover 506 and received in pockets 530 formed in the upper cover 504 to balance and minimize wobbling of the worm gear 516, thereby maintaining engagement of the teeth 517 with the worm 512 as the worm gear 516 rotates.

The sentence beginning at line 6 of page 28 has been amended as follows:

The lid 554 includes an upper [555] portion 555 mounted to a lower portion 556 with a rope seal 578 there between as also seen in FIG. 25A.

The sentence beginning at line 6 of page 32 has been amended as follows:

As depicted in FIG. 4, a motor cover 654 surrounds the motor/fan mechanism 634 and is mounted to the mounting flange [646] 647 of the impeller housing 644 thereby defining motor cooling exhaust manifolds 656 around the bottom of the fan housing 636.

The sentence beginning at line 18 of page 33 has been amended as follows:

[The] A switch button 696 from a switch body 698 extends through an

aperture 700 in the lever 692 and aperture 702 in the mounting plate 684.

The sentence beginning at line 25 of page 33 has been amended as follows:

Thus, when the slide button 704 is slid up to the on position, the motor 635 in the motor/fan assembly 634 is [energize] energized, and when the slide button 704 is slid down to the off position, the motor 635 is denenergized and the flap 694 engages the reset button 688, resetting the circuit breaker 686 when tripped.

The sentence beginning at line 12 of page 34 has been amended as follows:

Referring now to FIG. 29A, cleaning solution reservoir assembly 320 includes a bottom concave lower basin 324 having [a] the supply tube 328 exiting therefrom.

The sentence beginning at line 25 of page 36 has been amended as follows:

As best illustrated in FIG. 3A, removably positioned over the top support shelf 318 of the lower body shell 314 and top side of the front cover 311 is [a] cleaning solution supply tank 43.

The sentence beginning at line 10 of page 39 has been amended as follows:

Specifically, a retaining housing or slot 458 is mounted to the inner side of

the front wall 460 of the supply tank 43 for slidably receiving and retaining [a] spring-loaded latch 462.

The sentence beginning at line 18 of page 41 has been amended as follows:

To accomplish this action as depicted in FIG. 30C, a snap pin 149 extends through the ring member 719 and an aperture [141 (FIG. 23)] of the upwardly extending arm 141 of the wheel carriage (FIG. 23) pivotally securing them together.

The sentence beginning at line 25 of page 42 has been amended as follows:

A washer 748 is inserted around the cap [744] 742 and covers the spring 746.

The sentence beginning at line 17 of page 46 has been amended as follows:

[A] The brush block assembly 816 fits into a complimentary cavity 828 of the frame 822 rearwardly adjacent the nozzle assembly 820.

The sentence beginning at line 12 of page 47 has been amended as follows:

The front ear 850 bears upon the left end of the lever 838 and the rear ear 852 is positioned just under a forwardly extending projection 854 formed on [a] left pedal 818L.

The sentence beginning at line 8 of page 48 has been amended as follows:

Additionally with reference to FIG. 34A, as a backup to the microswitch 844, a second microswitch 843, electrically connected between the power source and brush motor 846, could be mounted on the cover 847 of brush motor 846 and positioned over the distributor plate 830 such that a raised portion 841 on the distributor plate presses the switch button 845 to open circuit and deenergize the brush motor 846 upon the brush block assembly [216] 816 being raised.

The sentence beginning at line 8 of page 49 has been amended as follows:

The arm 882 is angled outwardly and is positioned under an inwardly extending projection 886 of the right pedal [181R] 818R.

The sentence beginning at line 16 of page 49 has been amended as follows:

Upon depression of the right pedal 818R, the beveled edge 888 [9] (FIG. 34A) of the projection 886 cams against the roller 884 which causes the slide block 866 to move inwardly until the cam follower 890 moves away from the [ram] ramp portion 867, thereby lowering the frame 822 (FIG. 34A) and nozzle assembly 820.

The sentence beginning at line 17 of page 50 has been amended as

follows:

The rotor 892 is rotated until [a] second notch 896 engages a bottom rib 902.

The sentence beginning at line 17 of page 51 has been amended as follows:

The base assembly 916 includes a nozzle assembly 918 connected to the frame [822] 920 and fluidly connected to the recovery tank 910 via a central duct 924 attached thereto.

The sentence beginning at line 2 of page 52 has been amended as follows:

The right lever arm 928 is located outwardly adjacent the right side of [the] a frame 920 and pivotally connected to the frame 920.

In the Abstract:

The abstract has been amended as follows:

A[n] [improved] floor cleaning unit is provided. The floor cleaning unit [comprises] includes a base for movement along the surface. A nozzle assembly is removably attached to the base for pick up and removal of liquid and dirt. Such attachment is accomplished by providing the nozzle assembly with a slide latch that slidably engages a channel formed in the base.

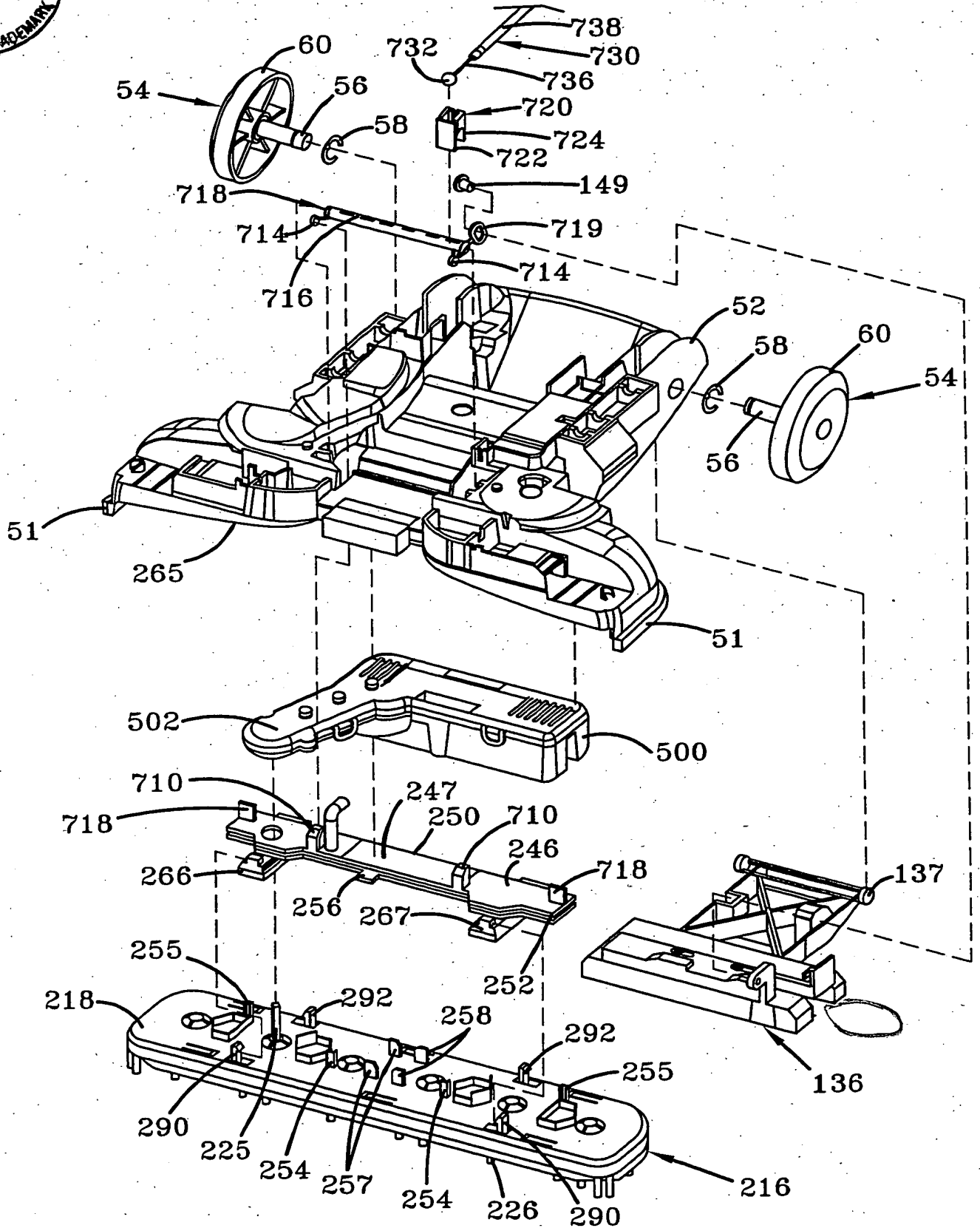
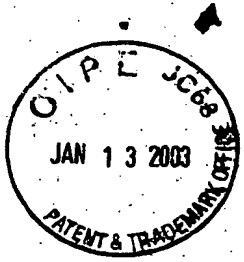


FIG-2A

original
file

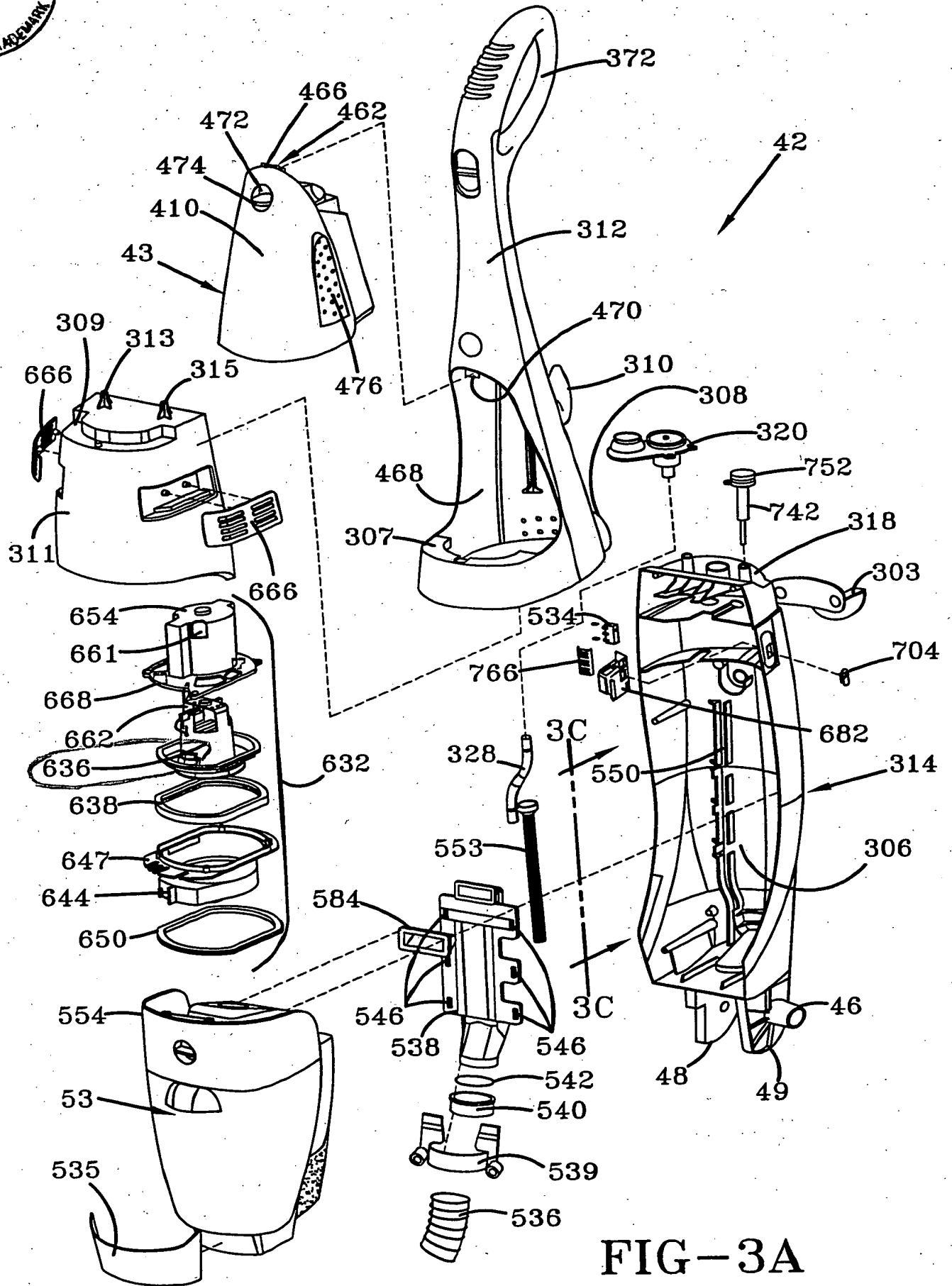
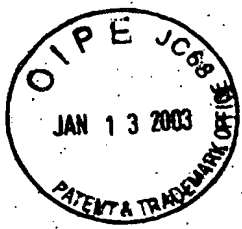
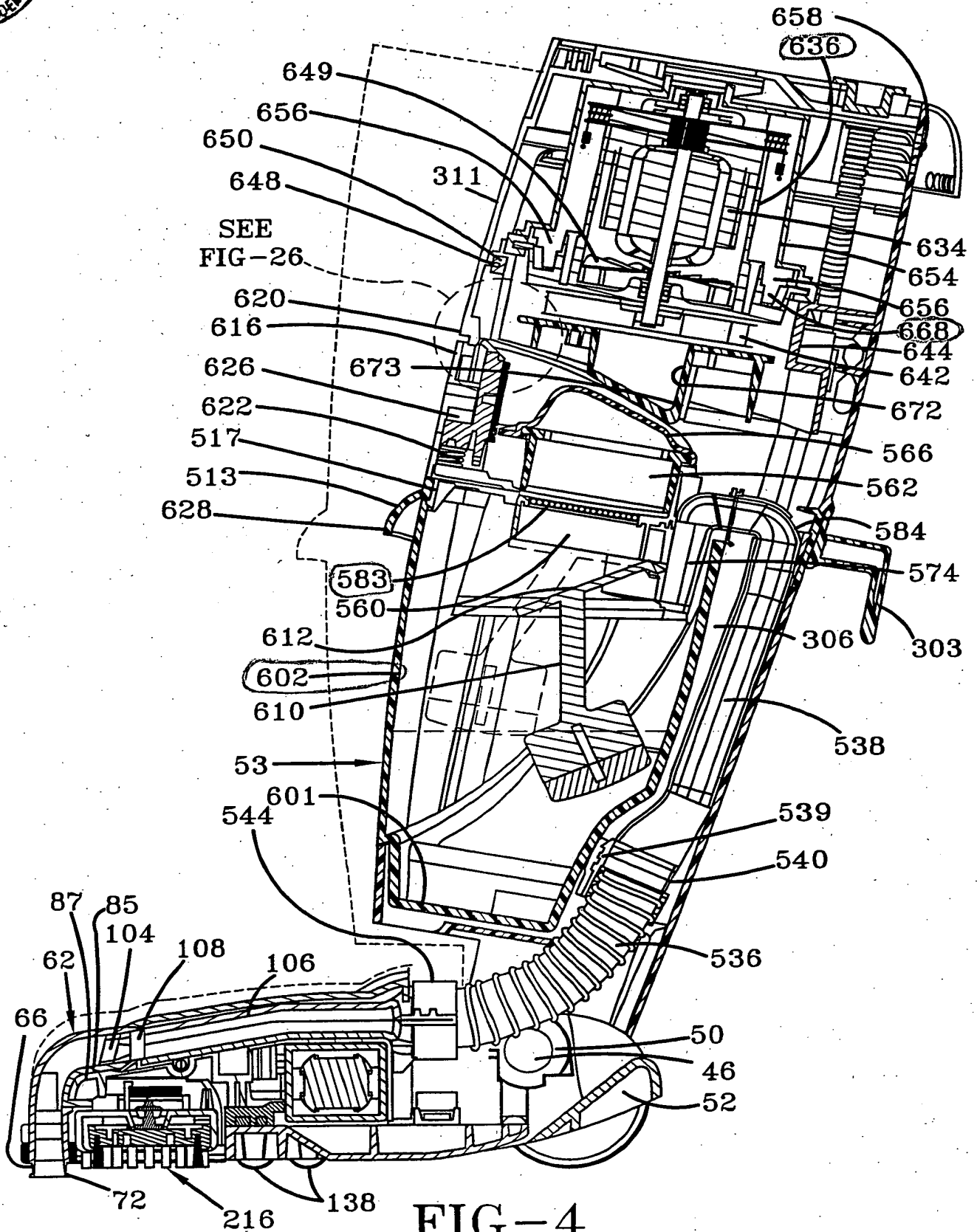


FIG-3A

49nd
15



4444
14

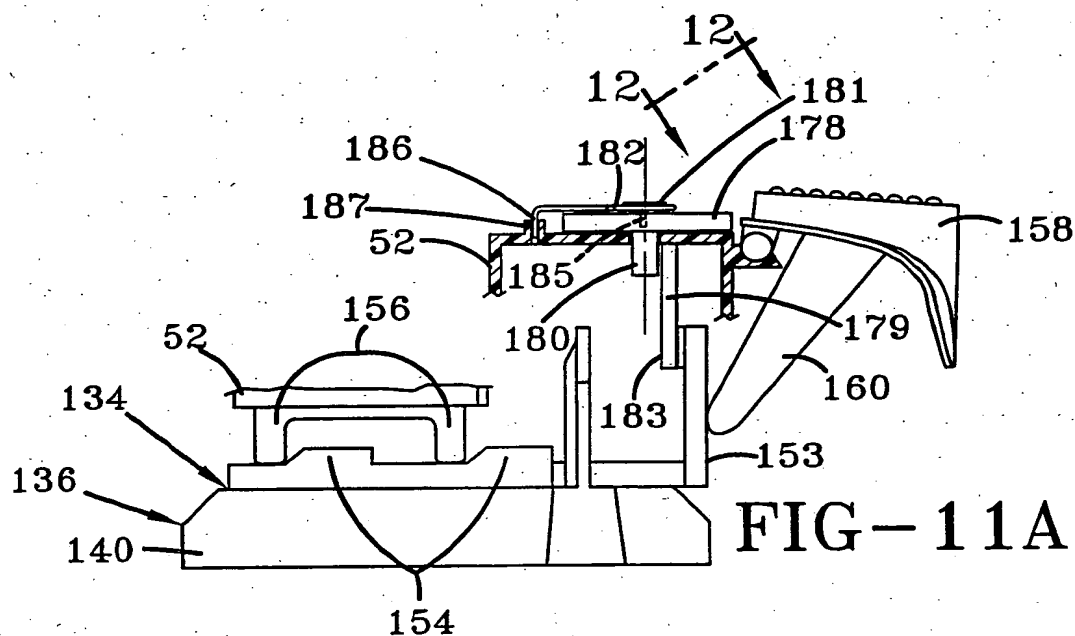
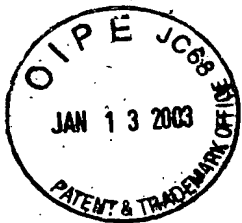


FIG-11A

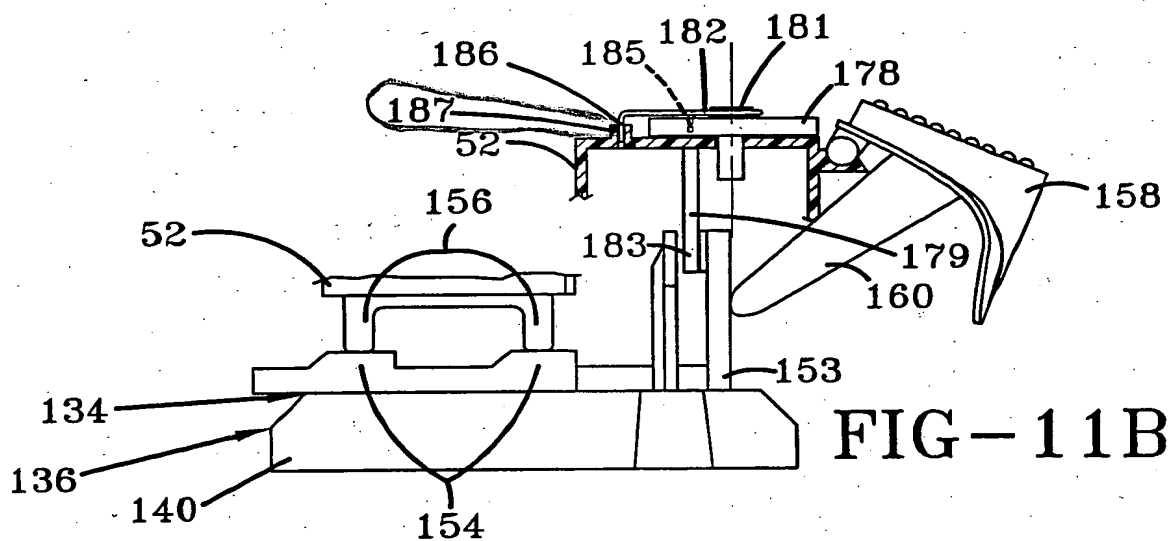


FIG-11B

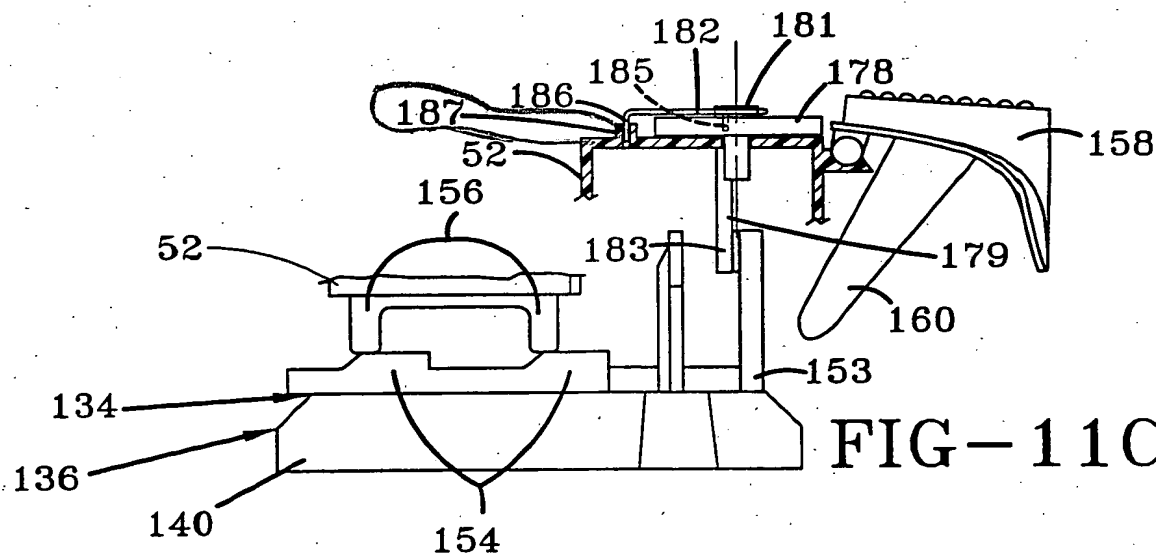


FIG-11C

appd
85

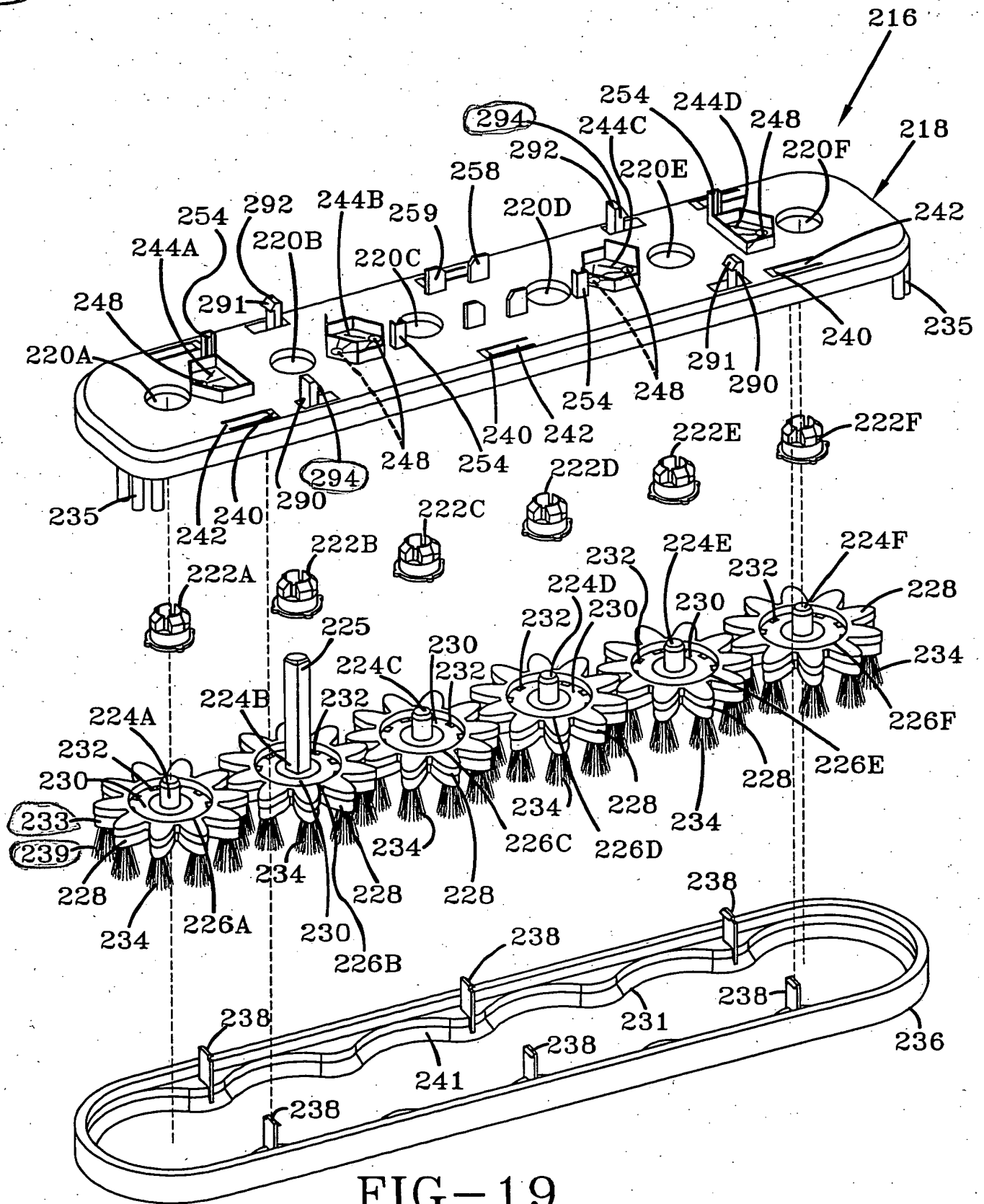
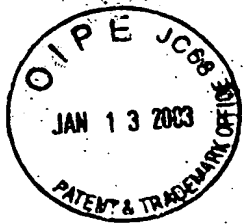


FIG-19

and
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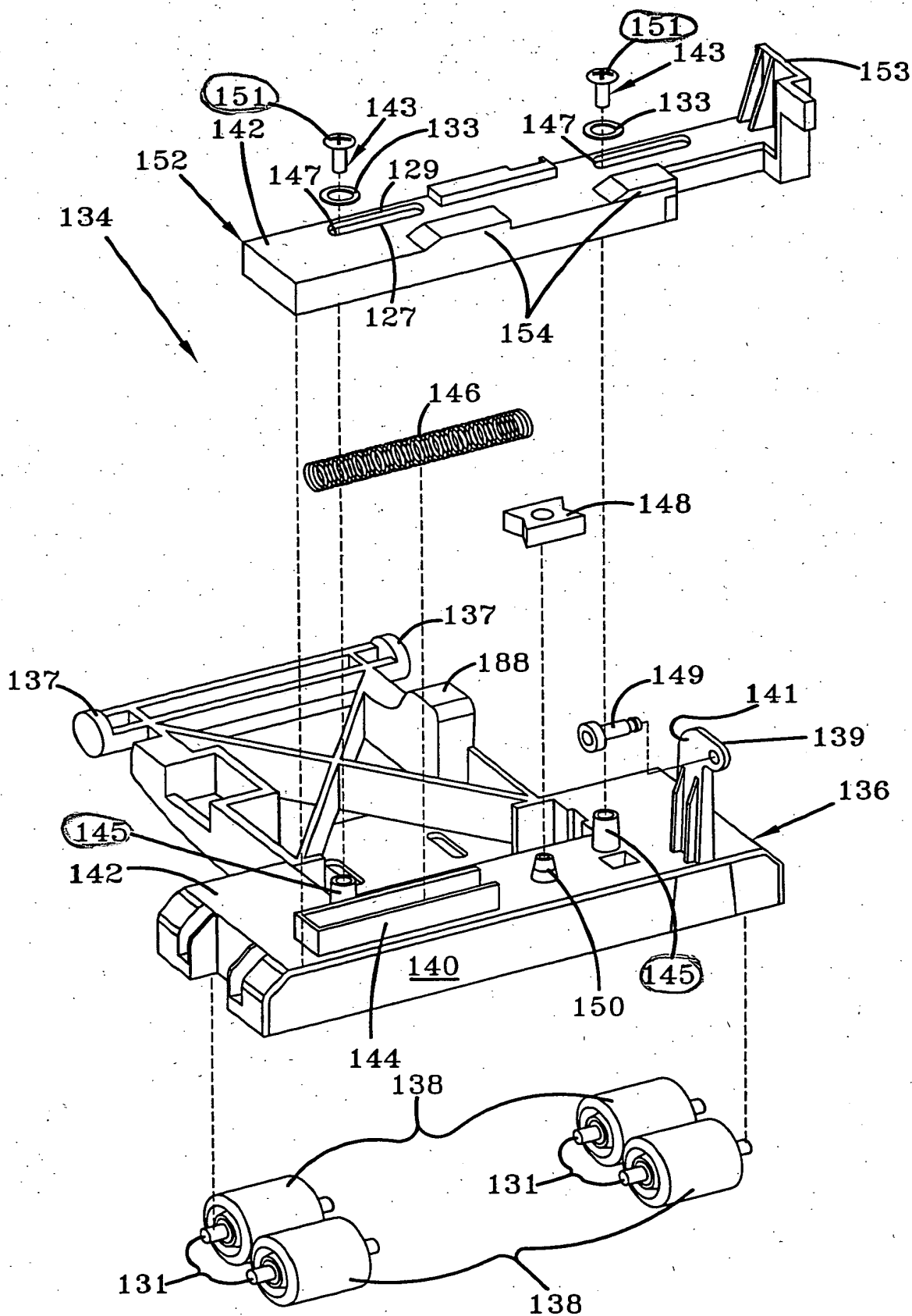


FIG-23

App'd
 16

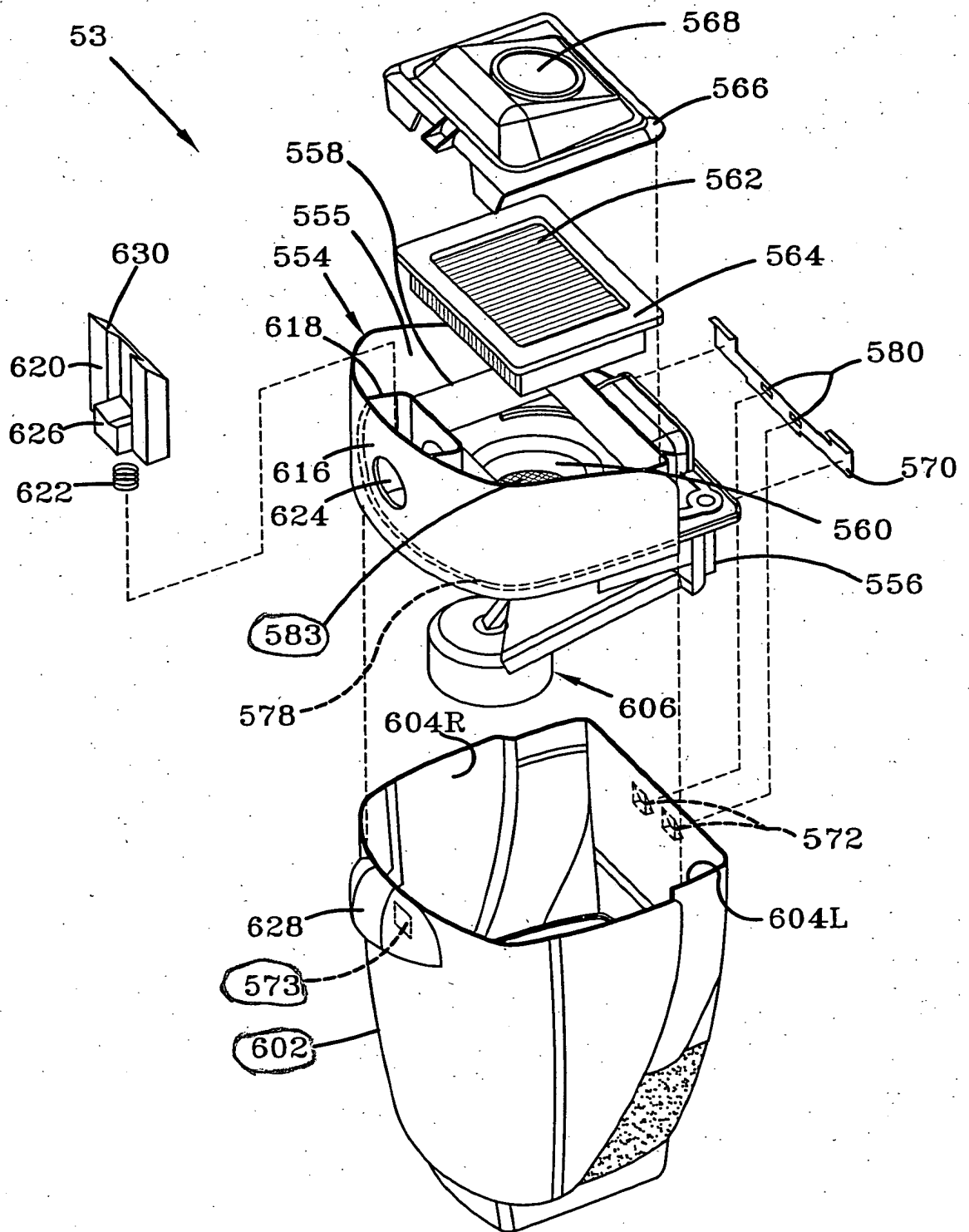
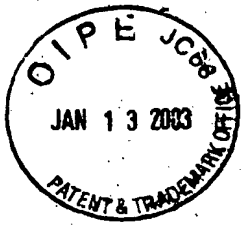


FIG-25

appx
16

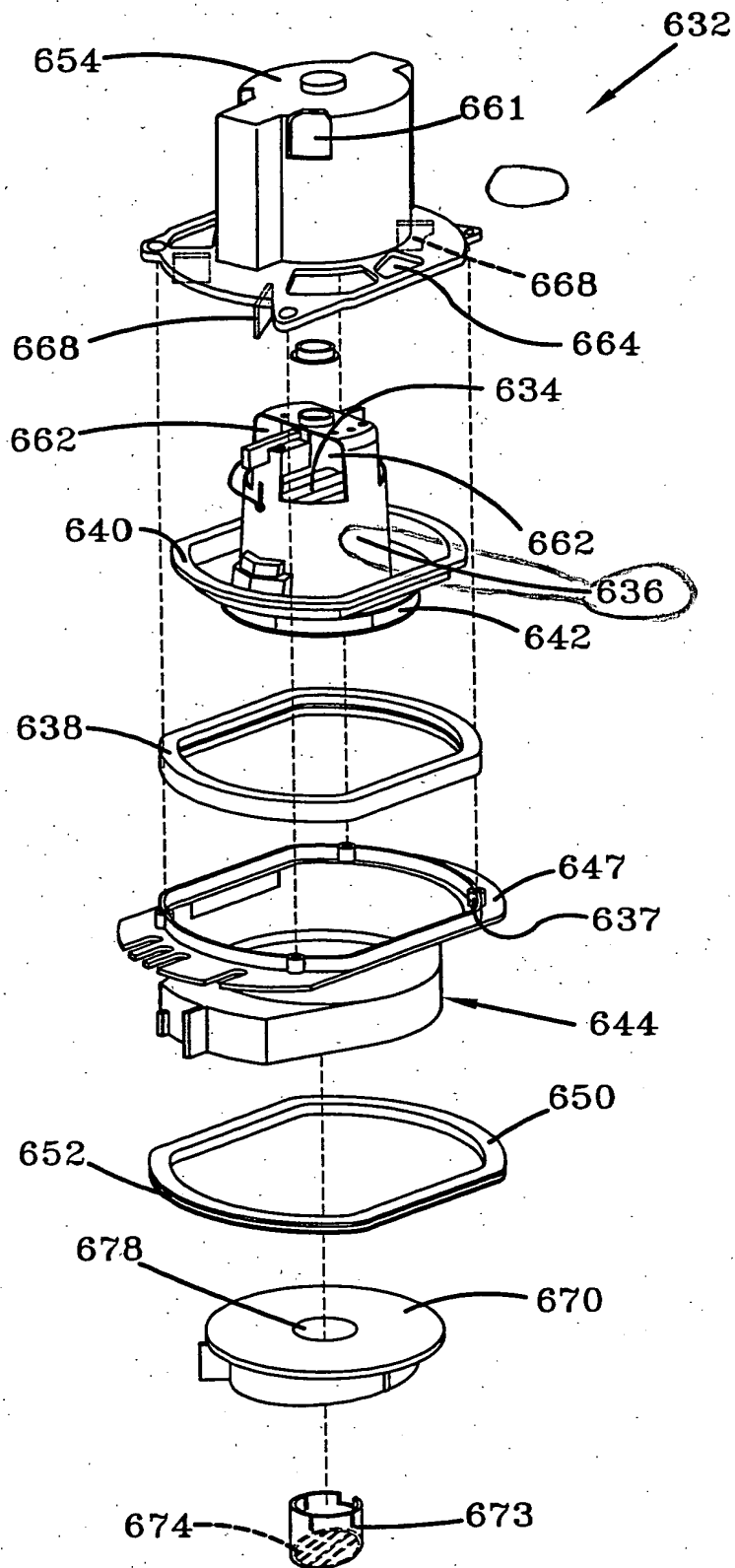
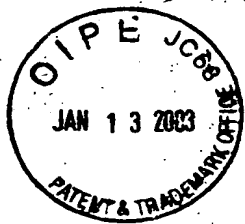


FIG-27

apparel
115

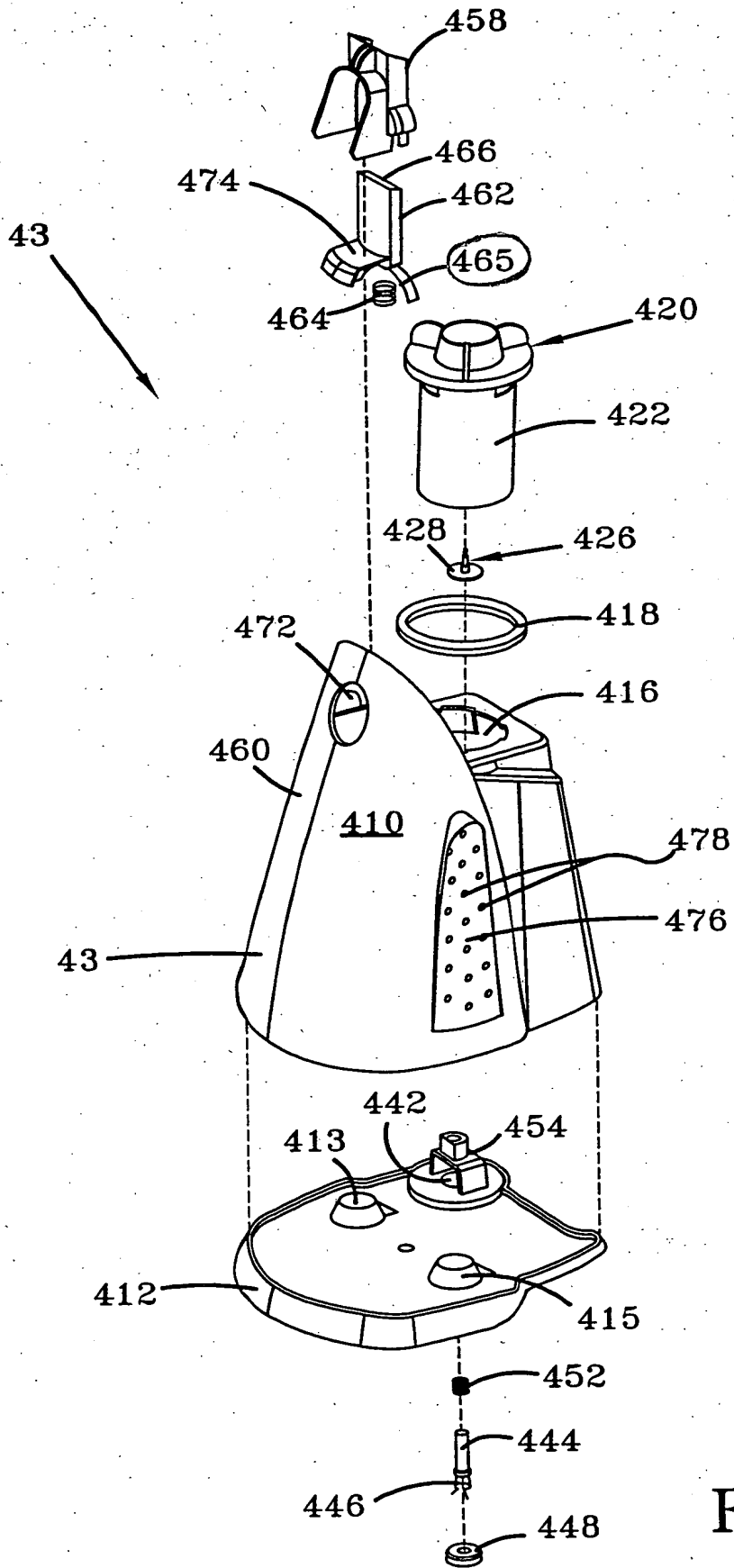


FIG-29

Handwritten signature/initials

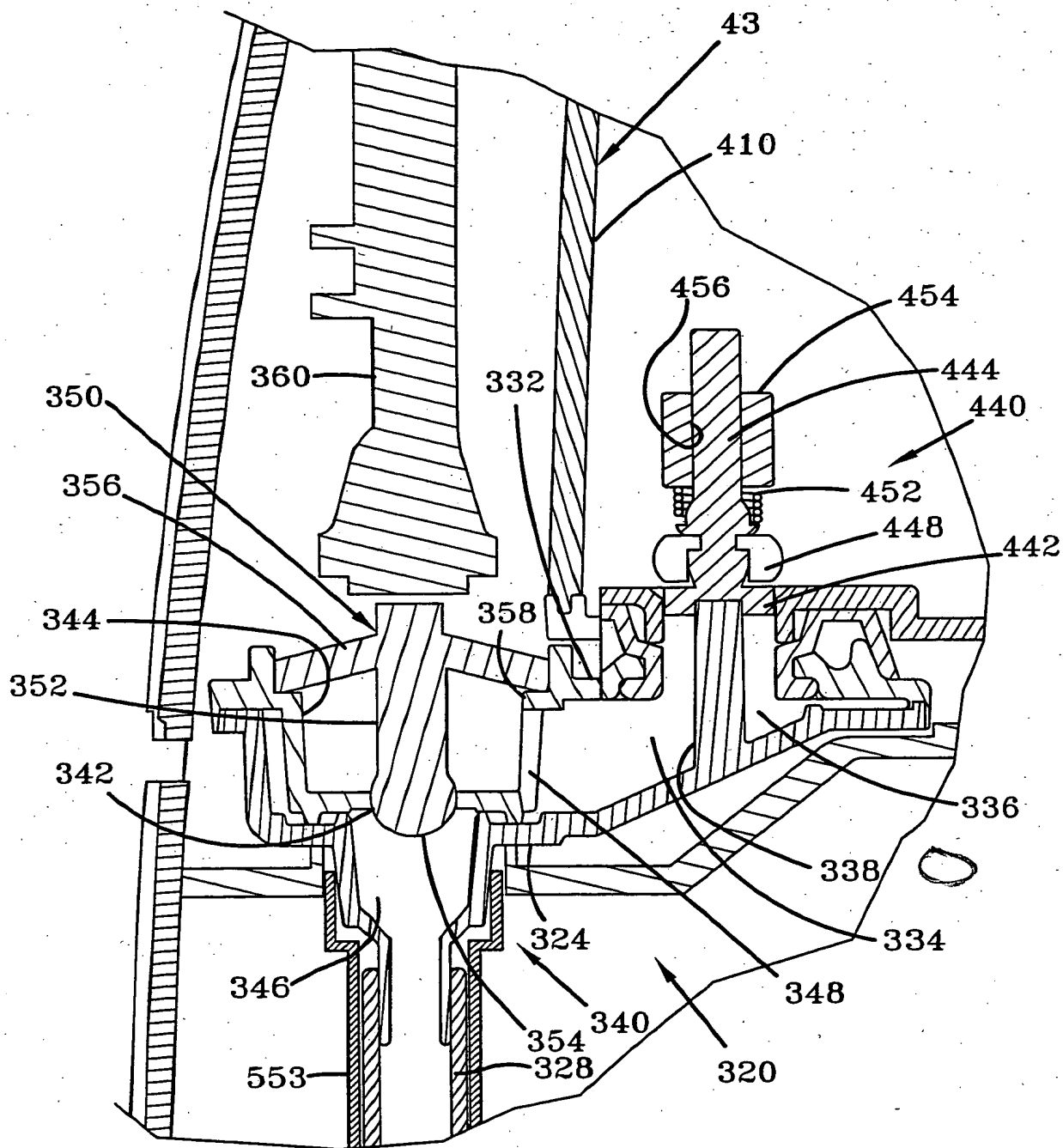


FIG-29A

am
16

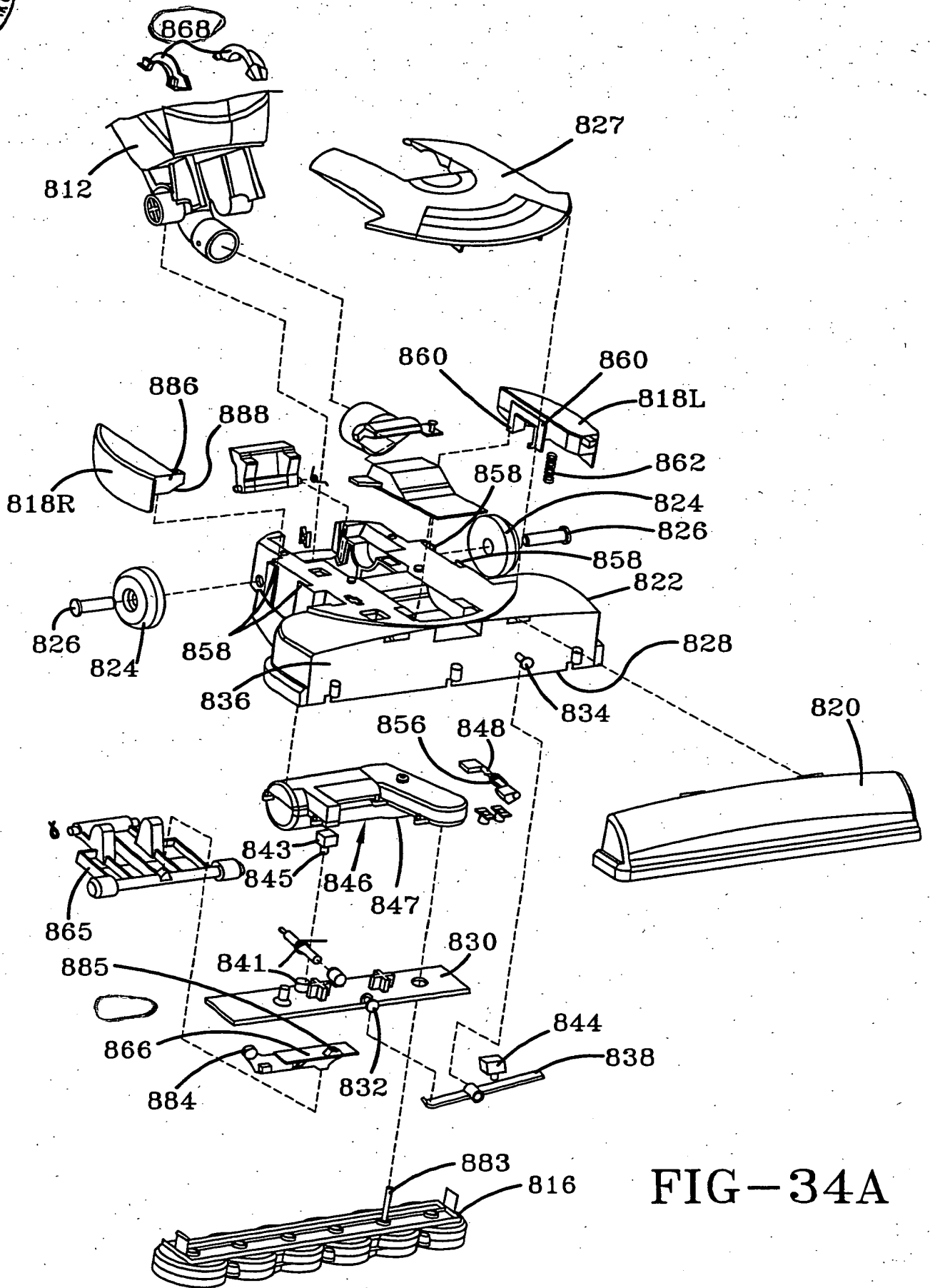


FIG-34A

App'd
 (11)

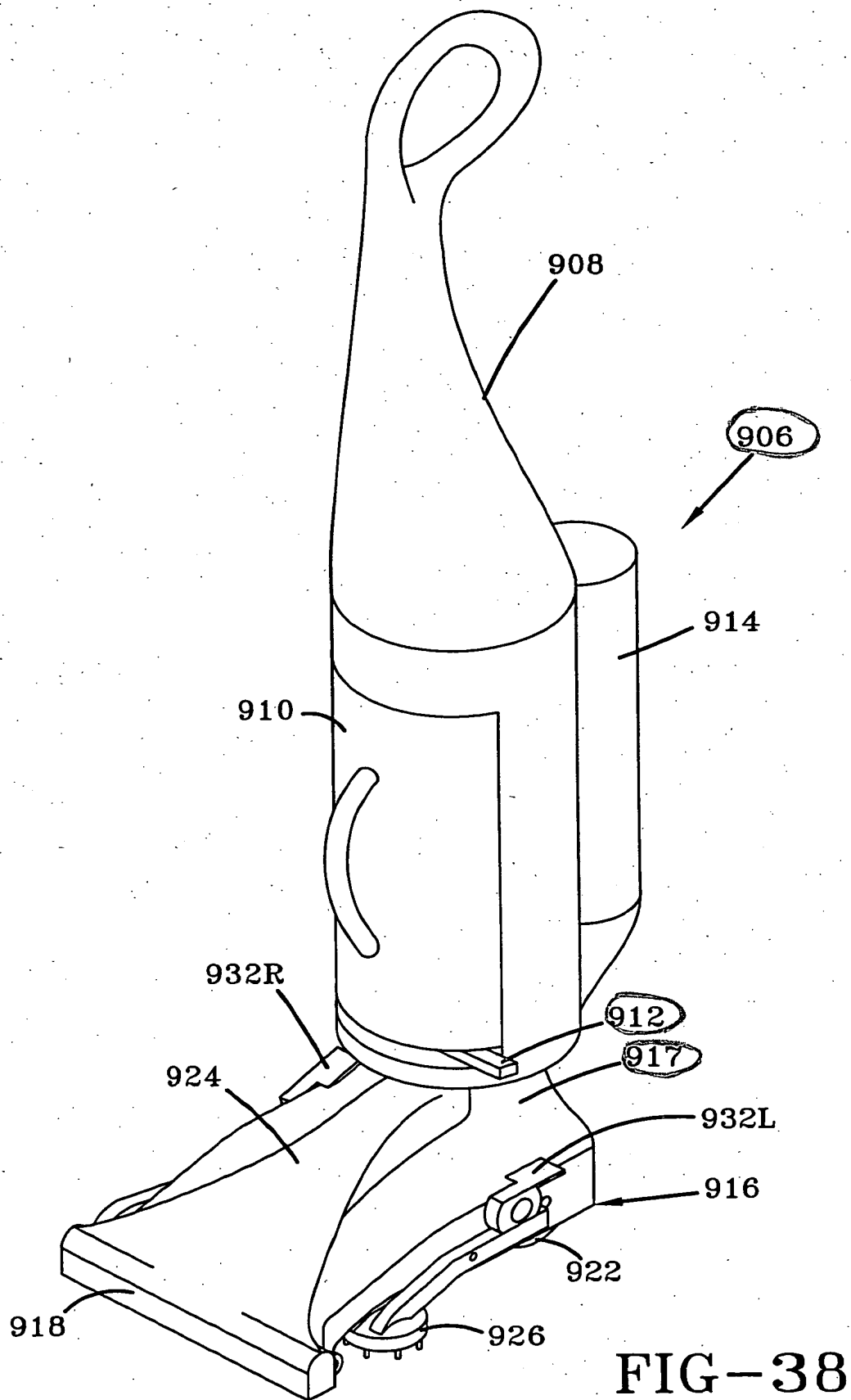
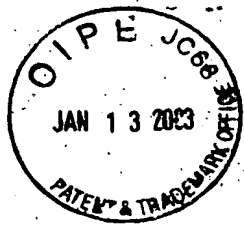


FIG-38

appnd
15